

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number
WO 2005/043514 A2

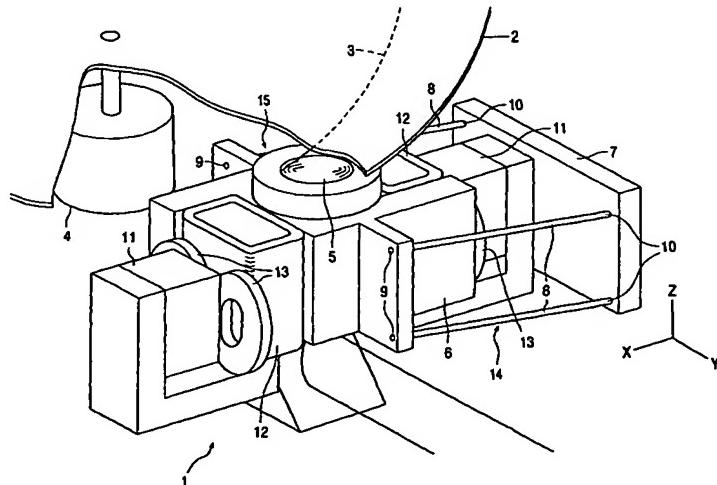
- (51) International Patent Classification⁷: **G11B 7/00**
- (21) International Application Number:
PCT/IB2004/052197
- (22) International Filing Date: 25 October 2004 (25.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
03104027.2 30 October 2003 (30.10.2003) EP
- (71) Applicant (*for all designated States except US*): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): LATENSTEIN VAN VOORST, Andre [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). RENCKENS, Jan, M., G. [BE/BE]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). VAN ROOIJ, Johannes, A. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: SCHRIJNEMAEKERS, Hubert, J., M.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,*

[Continued on next page]

(54) Title: PICKUP UNIT AND DISK DRIVE UNIT PROVIDED WITH SUCH A PICKUP UNIT



WO 2005/043514 A2

(57) Abstract: The invention relates to a pickup unit (1) for reading and/or writing data on a disk (2). The pickup unit (1) comprises a lens (5) in a lens holder (6) which is connected to a frame (7) of the pickup unit (1) by a plurality of elastic support members (8). The lens holder (6) is movable with respect to the disk (2) by bending of the elastic support members (8). The mounting position (9) of each elastic support member (8) at the lens holder (6) is located closer to the disk (2) than the respective mounting position (10) of the elastic support member (8) at the frame (7), as seen in the focusing direction of the lens (5). In this manner the lens holder (6) with the lens (5) is adapted to be brought to an operating distance with respect to the disk (2) which is smaller than the flatness tolerances of the disk (2) without the risk of collisions between the frame (7) and the rotating disk (2).



JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.